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Atlantic States

Atlantic States Cast Iron Pipe Company
183 Sitgreaves Street
Phillipsburg, New Jersey 08865

BY PRODUCT AND WASTE MATERIAL PROFILE REPORT

Revised: November 2004

TABLE OF CONTENTS

Heading	Page
1.0 Description of Processes Generating Residual Materials	1
2.0 Sampling Residuals and Wastes	2
3.0 By Product and Waste Characterization	2
4.0 Profiles	3
Appendix A – Sampling and Characterizing Procedures	
Appendix B – Material Profiles	

1.0 Description of Processes Generating Residual Materials

Atlantic States Cast Iron Pipe Company (ASCIP) is a manufacturer of ductile Iron Pipe which is primarily utilized by the municipal water works industry. The size ranges manufactured at this facility there are 6" through 24" diameter. The manufacturing process at ASCIP is exclusively for the purpose of producing this one product.

The manufacturing and pollution control process begin where steel scrap, coke, limestone, and silicon carbide are combined and deposited in the cupola for melting.

The cupola includes a bed of sand and clay mix which generates **"Bottom Sand"** solid waste. (11 ton max. per campaign). A campaign is usually for a duration of eight weeks.

Air pollution control of the cupola melting facility consists of a wet venturi scrubber system supplied with recirculated water from the waste water treatment plant. This water is treated with lime and flocculant which generates **"Sludge"** solid waste.(18 ton max. per production a day)

As molten iron is tapped from the cupola, it flows through the treatment ladle where lime is added. This continuous process generates **"Slag"** solid waste. (25 ton max. per production day)

Following the casting operation, the pipe is annealed and proceeds through several mechanical operations involved with inspection and quality assurance which can include grinding and saw cutting in preparation for cement lining.

Several processes involved in the production operation at ASCIP are connected to a bag house for control of dust and air pollution. These processes are the melting and casting molten iron ladles, sand core making machines, pipe grinder, and cutoff saw. These generate **"Bag House"** solid waste. (6 ton max. per production day)

Cement Lining entails the centrifugal application of a mortar cement coating to the inside of the pipe, which generates **"Sand/Cement"** solid waste. (6 ton max. per production day)

Following the cement lining operation, the pipe is applied and asphalt coating and bundled in preparation for shipment to the customer.

All sampling of each waste system is conducted on site and at the location of origin in proportionate quantities relative to the total quality of solid waste produced.

A flow diagram describing these processes and waste generated is included in Appendix B.

2.0 Sampling Residuals and Wastes

A procedure has been developed and implemented for characterizing residuals and wastes known as Solid Material Environmental Sampling and Analysis Protocol and Procedure EMP-EM-0904EPM-043. A copy is included in Appendix A.

This procedure provides instructions for proper and uncontaminated collection of solid material samples for the purposes of conducting laboratory analysis to determine proper disposal requirements or potential reuse opportunities. Instructions address equipment requirements, preparation of sampling equipment and decontamination, sample storage and preservation and an analyses matrix in accordance with NJDEP Field Sampling Procedures Manual, May 1992. Results of sampling exercises are used to characterize by-products and wastes in accordance with ASCIP Procedure EMP-EM-0704EPM-028.

Where a known or suspected contamination site exists, or significant soil or groundwater contamination has the potential to exist and sampling of materials at depths beyond 2 feet is required, further instruction and consultation of the NJDEP Field Sampling Procedures Manual and the NJDEP Technical Requirements for Site Remediation (NJAC 7:26E) is recommended. A project specific sampling plan should be prepared and submitted for review by NJDEP as part of the requirements under the Technical Requirements for Site Remediation.

3.0 By-Product and Waste Characterization

A procedure has been developed and implemented for characterizing by-products and waste supplies known the By-Product and Waste Characterization procedure number EMP-EM-0704-EPM-028. A copy is included in Appendix B.

This procedure describes the process used to properly characterize solid waste, especially hazardous waste. Characterizing waste ensures that ASCIP properly disposes of residuals from manufacturing and minimizes our environmental risk at disposal sites over the long term. This procedure is used in conjunction with ASCIP procedure EMP-EM-0904EPM-043, "Solid Material Environmental Sampling and Analysis Procedure" to properly determine the characterization of solid wastes and/or hazardous wastes.

4.0 Profiles

A sampling and analysis effort was completed in October of 2004. ASCIP Material Profile Forms were prepared based on laboratory results. These are included in Appendix B.

There are six streams that were not sampled in the October of 2004 exercise. They are: Lime Silo Bin Vent Filter Dust, Paint Booth Filters, Pig Bed Residual Sand, Finish Bag House Dust, Core Butts, and Bottom Sand.

A summary table of by products and waste stream profiles information is included in Appendix B.

Appendix A
Sampling and Characterizing Procedures

Atlantic States

Atlantic States Cast Iron Pipe Company

Solid Material Environmental Sampling and Analysis Protocol and Procedure

ASCIP Procedure Number **EMP-EM-0904EPM-043**	Date 09-27-04	Date Revised 11-12-04
Approved by:_____	Title:	Environmental Manager
Approved by:_____	Title:	General Manager

1.0 PURPOSE

This procedure(also called protocol) provides instructions for proper and uncontaminated collection of solid material samples for the purposes of conducting laboratory analysis to determine proper disposal requirements or potential reuse opportunities. Instructions address sampling equipment selection requirements, preparation of sampling equipment and decontamination, sample storage and preservation and an analyses matrix in accordance with NJDEP Field Sampling Procedures Manual, May 1992. Results of sampling exercises are used to characterize by-products and wastes in accordance with ASCIP Procedure EMP-EM-0704EPM-028.

Where a known or suspected contamination area on site exists, or significant soil or groundwater contamination has the potential to exist and sampling of materials at depths beyond 3 feet is required, further instruction and consultation of the NJDEP Field Sampling Procedures Manual and the NJDEP Technical Requirements for Site Remediation (NJAC 7:26E) is required. For such an event, a project specific sampling plan should be prepared and submitted for review by NJDEP as part of the requirements under the Technical Requirements for Site Remediation.

2.0 SAMPLING EQUIPMENT REQUIREMENTS

2.1 SAMPLING CONTAINERS

1. Selection of proper sampling containers is a function of materials to be sampled, analytical tests to be conducted, and laboratory requirements to ensure internal quality assurance.
2. For sampling potentially hazardous material, glass containers are recommended because it is chemically inert.
3. Amber colored glass is recommended when the potential for photodegredation, otherwise clear glass containers are allowable.
4. Plastic containers are generally not recommended because constituents could leach into plastic or plasticizers could leach into the sample.
5. In the case of strong acids or bases, plastic containers may be more suitable because glass containers may be etched by these compounds creating absorptive site on the container surface.
6. ASCIP will coordinate with certified laboratories to provide proper containers for sampling that conform to laboratory quality assurance requirements.

2.2 SAMPLE COLLECTION EQUIPMENT

1. Collection of solid materials and wastes at ASCIP will generally be from waste piles and easily accessible containers where shallow sampling techniques can be employed.
2. Properly decontaminated stainless steel trowels are acceptable in most cases.
3. Where waste piles are deep and there is potential for stratification of contaminants, or where variations of material composition at depths are suspected, bucket augers or waste pile samplers are acceptable.

2.3 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Generally speaking, HAZWOPER Level D PPE, which is described below, is required for conducting these sampling exercises. If volatile organics or reactive chemicals are potentially suspected to be encountered, consult with the Safety Director for proper PPE.

1. Respiratory: Based on experience, solid materials and wastes generated on site at ASCIP generally are not anticipated to contain volatile organics. Sampling will generally be conducted outdoors in well ventilated areas. Splashing, immersion, or the potential for unexpected inhalation or contact with hazardous levels of any chemicals is not expected to occur. There is very minimal potential for airborne concentrations of volatile organics and no known hazards that warrant the need for respiratory protection.

2. Chemical Protection: As some materials are dusts or fine particles, there is potential for skin or eye contact with solid materials. Chemically Protective Clothing (CPC) is not required because materials used in production on site are not generally reactive with tissue and are not anticipated to be encountered.

3. Eye and Skin Protection: Proper eye protection and skin protection against absorption is recommended. Safety glasses with side shields, gloves (optional), and coveralls (optional) are recommended.

4. Hard Hats and Safety Shoes: The production areas of the facility contain the potential for drop hazards and debris in some areas. As an overall safety policy of ASCIP, safety shoes and hard hats are to be worn at all times in production areas of the facility.

3.0 QUALITY ASSURANCE REQUIREMENTS

The following procedures should be reviewed prior to each sampling event and implemented every time to ensure quality assurance. The section in which each procedure is discussed is noted in the table below.

QA Program Element	Procedure Section
Sampling equipment selection requirements	2.0
Sampling equipment decontamination	4.2
Sample collection	4.3, 4.4
Sample storage and transport	4.1, 4.5, 4.6
Certified laboratory	5.1
Analytic matrix in accordance with NJDEP requirements	5.2, 5.3

4.0 SAMPLING PROCEDURES

4.1 SAMPLING CONTAINERS – STORAGE AND TRANSPORT

The sampling technician must ensure the following:

1. Containers furnished to ASCIP are properly decontaminated and preserved.
2. Containers are shipped to ASCIP in safe, clean transport containers to prevent breakage and contamination prior to sampling.
3. Containers are kept in shuttles or coolers to keep them clean and minimize potential for breakage.
4. Do not store near solvents, gasoline, or other equipment or materials that are a potential source of contamination.
5. Sample bottles must be kept closed when not in use.

4.2 SAMPLING EQUIPMENT FIELD DECONTAMINATION

The sampling technician must ensure the following:

1. Sampling equipment such as trowels are decontaminated before and after every sample collection to avoid any cross contamination:
2. Rinse with tap water to remove visual accumulation.
3. Rinse with laboratory grade glassware detergent to remove films or oils.
4. Rinse with tap water again to remove detergent.
5. Rinse with distilled and deionized water.

4.3 REPRESENTATIVE SAMPLE COLLECTION

Take specific measures to ensure representative samples are collected. These are described in detail in Tables 1 through 3 that accompany this procedure.

1. Table 1 describes generation and accumulation locations for individual materials.
2. Table 2 describes the sample collection approach for individual materials.
3. Table 3 describes sampling collection details for individual materials.

The following procedure includes general requirements for all solid material sample collection.

1. Prior to collecting samples, check for favorable weather and vicinity conditions. If possible, avoid sampling during rain or in windy conditions. Be aware of conditions in the area including the use of machinery.
2. Using a trowel, take small equal portions of sample from the surface and below the surface of a solid material pile or container.
3. If using an auger, take small equal portions of sample from below the surface and transfer to a sheet of plastic. Once all portions are collected, mix them thoroughly.
4. Transfer the sample into a laboratory cleaned sample bottle and close the bottle.
5. Label the sample accordingly with time, date and location.
6. Complete the chain of custody form with appropriate sample and analyses information.

4.4 SAMPLE NUMBERING SYSTEM

A sample numbering system will be used to identify each sample collected for chemical analysis. The numbering system provides accurate sample tracking and facilitates retrieval of sample data.

1. Sample identification numbers will be used on sample labels, chain-of-custody forms and other applicable sampling activity documentation.
2. Each sample collected will be assigned a unique sample number.
3. Sample numbers will change when the media, process generating the media or location changes. Sample numbers will not change because different analyses are requested.

Sample identification numbers consist of three components: a two-or-three-character alpha and/or alphanumeric process code; a four-to-five-character alphanumeric sample type code; and a four-character alphanumeric sample characteristic code. The following is an example of a completely numbered sample, with each component identified:

Example: AS-MCBH-CM

Where: AS = Atlantic States
MCBH = Melt Center Bag House
CM = Metal Boxes, Cartons, Cases, Hoppers, Gondolas

The sample characteristic code (e.g., AS in the example above) will remain the same for all sampled collected at the facility. The sample type code (MCBH) will vary depending on the process type and location. The following are examples of typical alpha codes that can be used for the sample type code:

BH = Bag House
CS = Cupula Slag
MCBH = Melt Center Bag House
CMBH = Core Molding Bag House
AO = Annealing Oven
FBH = Finish Bag House
AC = Asphalt Coating
CC = Cement Coating
MAIN = Maintenance
HW = Hazardous Waste

The sample characteristic code (HO) indicates what the sample was collected from. If a composite sample is collected from a location, a "C" will be added to the end of the alphanumeric sample characteristic code (e.g. HO01C). The following are examples of typical alpha codes that can be used for the sample characteristic code:

BA = Burlap, cloth, paper or plastic bags
CM = Metal Boxes, Cartons, Cases, Hoppers, Gondolas
CW = Wooden Boxes, Cartons, Cases, Pallets
CF = Fiber or Plastic Boxes, Cartons, Cases, Pallets
CY = Cylinders
DM = Metal Drum, Barrel, Kegs, Pails
DW= Wooden Drums, Barrel, Kegs, Pails
DF = Fiber or Plastic Drums, Barrel, Kegs, Pails
DT = Dump Truck
SO = Soil Sample
SS = Super Sack
TP = Portable Tanks
TT = Cargo Tanks (tank trucks)

4.5 TRIP BLANKS AND FIELD BLANKS

1. Trip Blanks are used exclusively for volatile organic analysis in aqueous sampling only to detect possible cross contamination during handling and transport.
2. Trip Blanks are not required for non-aqueous matrix sampling events according to the NJDEP Field Sampling Procedures Manual.
3. Field Blanks are used as a mechanism of quality control on sample equipment handling, preparation, storage and shipment.
4. Field Blanks are required at the rate of at least 1 per day and/or 10% of samples.

4.6 SAMPLE HANDLING, PRESERVATION AND HOLDING TIMES

1. The use of Field Blanks in sampling events dictates a turnaround time of 4 days maximum from date of shipment from the laboratory. The laboratory will also provide 500 ml temperature blanks (1 per shipping cooler).
2. All samples should be preserved at 4° C while stored on site and during shipment. This will be accomplished by packing ice in double sealed zip-loc bags covering about 25% of the volume of coolers provided by the lab.
3. All coolers will be closed and sealed with packaging tape prior to shipment to the laboratory.
4. Allowable laboratory holding time allowances vary depending on contaminants. Based on the intended matrix of analyses at ASCIP, the parameter(s) with minimum holding of time dictate allowable holding time. Semi-volatiles, Pesticides, and PCB all have 10 day holding times; all other parameters have higher allowable holding times.

4.7 SAMPLE PACKING AND SHIPMENT PREPARATION

Samples will be classified as Unknown Hazardous Wastes. Based on past experience, samples can be classified as shipment category ORM-E (Other Regulated Materials). The following procedures are packaging/shipping requirements for Hazardous category ORM-E.

1. Place the labeled sample container in a polyethylene bag.
2. Place the sample in a cooler lined with packing material to prevent breakage.
3. Place ice in sealed zip-lock bags and pack above and below samples. Place the lab provided Chain of Custody (COC) and temperature blank inside the cooler.
4. Seal the cooler around the top-lid seams to retain temperature.
5. On the outside of the cooler, place:
   - Proper shipping name ("Hazardous Substance, solid, N.O.S.") N.O.S. = Not otherwise specified
   - Category of Hazardous Material (ORM-E)
   - UN or NA Number (NA 9188)
   - Proper labels ("Laboratory Samples", "This End Up")
   - Addressee and addressor
6. Complete carrier-provided bill of lading or standard industry form. Provide the following information:
   - "Hazardous Substance, solid, N.O.S. NA 9188. ORM-E."
   - "Limited Quantity" or "Ltd. Qty."
   - Net weight or net volume
   - Further descriptions such as "Laboratory Samples"
7. Transport samples by express overnight package services.

5.0 SAMPLING FREQUENCY

The following presents the frequency at which sampling will be performed at Atlantic States. 40 CFR 261 does not specify sampling frequency. The sampling frequency listed within this table is designed to provide reasonable assurance that the TCLP contaminant concentrations presented in ASCIP's By-Product and Waste Characterization procedure are not exceeded for each waste stream.

Category of Material	Control Device/ Source	Waste Collector Apparatus	Generation Rate	Sample Frequency	Sample Collection	Regulatory Threshold ≥ 70% of limit	Regulatory Threshold ≤ 70% of limit
Aggregate Composite	Casting Area	Waste Pile	Daily	Monthly	Composite of material for 1 days	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Asphalt Coated Debris	Finish Area	Filters	Daily	Monthly	Composite of material for 1 day	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Asphalt Liquid Coating Cleanup	Finish Area	Dumpsters	Daily	Monthly	Composite of material for 1 day	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Bottom Sand	Slag Pit	Waste Pile	Once / 6-8 weeks	Quarterly	Composite of material for 1 day	Resample Quarterly	Continue quarterly
Core Butts	Casting Area	Waste Pile	Daily	Monthly	Composite of material for 1 days	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Core Dept BH Dust	Bag House	Bags, hoppers, roll-off	Once / Quarter	Quarterly	Composite of material for 1days	Resample Quarterly	Continue quarterly
Cupola Slag	Scrubber System	Slag Pit	Daily	Monthly	Composite of material for 1 day	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly

Category of Material	Control Device/ Source	Waste Collector Apparatus	Generation Rate	Sample Frequency	Sample Collection	Regulatory Threshold ≥ 70% of limit	Regulatory Threshold ≤ 70% of limit
Drop Out Box Particulate	Bag House	Drum	Daily – Small Volume	Quarterly	Composite of material for 1 days	Resample Quarterly	Continue quarterly
Finishing BH Dust	Bag House	Bags, hoppers, roll-off	Once / Quarter	Quarterly	Composite of material for 1 days	Resample Quarterly	Continue quarterly
Lime Silo Bin Vent Filter Dust	Lime Silo Bin Vent	Drums	Twice / Week	Monthly	Composite of material for 1 day	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Lime Slag	Scrubber System	Slag Pit	Daily	Monthly	Composite of material for 1 day	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Melt Center BH Dust	Bag House	Bags, hoppers, roll-off	Twice / Week	Monthly	Composite of material for 1 days	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Pig Bed Residual Sand	Screen Shaker	Waste Pile	Daily	Monthly	Composite of material for 1 days	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly
Sand Blowout Filter Dust	Casting Area	Waste Pile	Daily – Small Volume	Quarterly	Composite of material for 1 days	Resample Quarterly	Continue quarterly
Sand Cement	Finish Area	Moat	Twice / Week	Monthly	Composite of material for 1 day	Resample monthly Achieve 3 months Switch to quarterly	Continue quarterly

6.0 ANALYSIS AND REPORTING

6.1 LABORATORY QUALIFICATION

For non-aqueous samples, laboratories must be certified/contract awardees in the following programs:

1. Regulations Governing Laboratory Certification and Performance Standards (N.J.A.C. 7:18)
2. EPA Contract Laboratory Program (CLP)
3. Professional Laboratory Analytical Service contract

6.2 ANALYTICAL MATRIX FOR SOLID MATERIAL PROFILING

For the purposes of profiling solid materials for solid waste disposal determinations, ASCIP has a policy of analyzing all samples for the following parameters:

For Solid/Hazardous Waste Disposal

Parameter	Analytical Method
Percent Solids	
pH	SW-846 8260
TCLP Metals	SW-846 1311
TCLP Volatile Organics (paint filters and paint only)	SW-846 8260
PCB/Pesticides	SW-846 8082 / SW - 846 8141/SW-846 8081
Total Petroleum Hydrocarbons (TPH)	EPA 418-1AZ

For Beneficial Use in New Jersey and Pennsylvania*

Parameter	Analytical Method
Percent Solids	
pH	SW-846 9040B
Volatile Organics (Targeted Compound List)	SW-846 8260

Base Neutral / Acid Extractable (Semi-volatiles) (Targeted Compound List)	SW-846 8270
PCB/Pesticides	SW-846 141 / SW-846 8081
TCLP Metals	SW-846 1311
Total Metals	SW-846 6010
TPH	EPA 418-1AZ
PAH	SW-846 8310

* Specific conditions of reuse vendor air & waste permits may require additional analytical testing. Vendor requirements should be periodically reviewed for additional requirements.

There are a number of additional parameters to be analyzed for beneficial reuse in Pennsylvania where Reuse facilities are using PADEP General Permits. All parameters should be analyzed for total and leachable characteristics using SW-846 6010 and 1311 for metals and 8260 and 8270 for volatiles and semi-volatiles. Where these opportunities are identified, additional sampling and analyses will be identified.

6.3 LABORATORY ANALYSIS AND REPORTING

ASCIP will direct qualified laboratories to conduct analyses as listed in Section 5.2 on samples in accordance with applicable laboratory and quality assurance procedures. Results of laboratory analyses will be delivered to ASCIP both in hard copy format and electronically as required by ASCIP. All laboratory reports received by hard copy should be signed by a laboratory official with appropriate documentation and copy of chain of custody.

7.0 ROLES AND RESPONSIBILITIES

The **Environmental Manager (EM)** is responsible for ensuring that all by-product and waste monitoring and reporting requirements are implemented. The EM is also responsible for overseeing the material characterization and profiling program.

The **Assistant Environmental Manager** is responsible for coordinating with production and sampling technicians to ensure representative waste streams are available, to manage all sampling activities, manage laboratory analysis and maintain material profile records.

The **Plant Manager** is responsible for ensuring that operations and maintenance personal and resources are available to support representative sampling and analysis efforts.

TABLE 1
ATLANTIC STATES CAST IRON PIPE
PHILLIPSBURG, NEW JERSEY
WASTESTREAM SUMMARY

WASTESTREAM	POINT OF GENERATION	ACCUMULATION AREA	STORAGE AREA	RECYCLED OR DISPOSED?	GENERATION FREQUENCY	PHYSICAL CHARACTERISTICS	
						DESCRIPTION	PROPERTIES
Aggregrate Composite	Throughout Plant	At points-of-generation	Recycle Bunker	Recycled	Daily	Combination of all recycle streams except cupola slag	Mixed Solids
Asphalt Coated Debris	Spray Plant Booths	Refuse Dumpster	Refuse Dumpster	Disposed	Daily	Absorbents - Other Solids, Unconsolidated	Solid
Asphalt Liquid Coating Cleanup	Spray Paint Booths	55 gal Drum	Recycle Bunker	Disposed	Daily	Liquid Waste Asphalt Coating	Liquid
Bottom Sand	Cupola	Melting Back Yard	Recycle Bunker	Recycled	Once/ 6-8 weeks	Consolidated Solid	Granular
Core Butts	Casting Area	Casting Area	Recycle Bunker	Recycled	Daily	Consolidated Solid	Solid
Core Department Baghouse Dust	Core Department Baghouse	Core Department Baghouse Hopper	Recycle Bunker	Recycled	Once/quarter	Granular Solids, Unconsolidated	Fine Dry Dust
Cupola Slag	Cupola	Slag Pit	Recycle Bunker	Recycled	Daily	Molten Slag - cools to Consolidated Solid	Dry Solid
Dropout Box Particulate	Scrubber Drop Out Box	Melting Back Yard	Recycle Bunker	Disposed	Daily - Small Volume	Granular Solids, Unconsolidated	Fine Dry Dust
Finishing Baghouse Dust	Finishing Baghouse	Finishing Baghouse Hopper	Recycle Bunker	Recycled and Disposed	Once/quarter	Granular Solids, Unconsolidated	Fine Dry Dust
Lime Silo Bin Vent Filter Dust	Lime Silo Bin Vent	Lime Silo Bin Vent	Recycle Bunker	Recycled	Once/week	Granular Solids, Unconsolidated	Wet Solid
Lime Slag	Treatment Ladle	Slag Pit	Recycle Bunker	Recycled	Daily	Granular Material	Dry Solid
Melt Center Baghouse Dust	Melt Center Baghouse	Melt Center Baghouse Hopper	Recycle Bunker	Recycled	Daily	Granular Solids, Unconsolidated	Fine Dry Dust
Pig Bed Residual Sand	Screen Shaker	Screen Shaker Pit	Recycle Bunker	Recycled	Daily	Solid	Non-Aqueous Solid
Sand Blowout Filter	Cyclones and Filters	Oven Area	Recycle Bunker	Disposed	Daily - Small Volume	Granular Solids, Unconsolidated	Fine Dry Dust
Sand Cement	Cement Line Moat	Former Moat	Recycle Bunker	Recycled	Once/week	Other Solids, Unconsolidated	Moist Solid
Scrubber Sludge	Scrubber Wastewater Filter Press	Dump Truck	Sludge Storage Area	Recycled	Continuous	Sludge - Other Solids, Unconsolidated	Sludge

TABLE 2
ATLANTIC STATES CAST IRON PIPE
PHILLIPSBURG, NEW JERSEY
SAMPLING APPROACH

WASTESTREAM	SAMPLING LOCATION (S)	SAMPLING DESIGN		BASIS FOR SAMPLING DESIGN
		# of Strata	Strata Features	
Aggregrate Composite	Recycle Bunker	2	Perform grid sampling @ 1/100cy; analyze Slags as 2 separate grid composites; analyze all other wastestreams as area composites	Stratified wastestreams based on particle/fragment size and physical characteristics
Asphalt Coated Debris	Refuse Dumpster	1	Collect portions of minimum of three (3) spent absorbent pads and (3) used air filters	Accepted practice
Asphalt Liquid Coating Cleanup	Spray Booths	1	Assumed uniform particle size and consistency	Assumed uniform particle size and consistency
Bottom Sand	Recycle Bunker(1)	1	Assumed uniform particle size and consistency	Assumed uniform particle size and consistency
Core Butts	Recycle Bunker(1)	2	fragment size and collect two (2) composite samples from the two (2) size fractions	Highly variable fragment size; unclear whether constituents preferentially proportioned between the two (2) strata
Core Department Baghouse Dust	Core Department Baghouse Hopper	1	Collect discrete hopper samples at three (3) vertical locations	Assumed uniform particle size and consistency
Cupola Slag	Recycle Bunker(1)	2	Segregrate slag based on fragment size and collect two (2) composite samples from the two (2) size fractions	Highly variable fragment size; unclear whether constituents preferentially proportioned between the two (2) strata
Dropout Box Particulate	Recycle Bunker(1)	1	Assumed uniform particle size and consistency	Assumed uniform particle size and consistency
Finishing Baghouse Dust	Finishing Baghouse Hopper	1	Collect discrete hopper samples at three (3) vertical locations	Assumed uniform particle size and consistency
Lime Silo Bin Vent Filter Dust	Lime Silo Bin Vent	1	Collect discrete hopper samples at three (3) vertical locations	Assumed uniform particle size and consistency
Lime Slag	Recycle Bunker(1)	2	Segregrate slag based on fragment size and collect two (2) composite samples from the two (2) size fractions	Highly variable fragment size; unclear whether constituents preferentially proportioned between the two (2) strata
Melt Center Baghouse Dust	Melt Center Baghouse Hopper	1	Collect discrete hopper samples at three (3) vertical locations	Assumed uniform particle size and consistency
Pig Bed Residual Sand	Recycle Bunker(1)	1	Assumed uniform particle size and consistency	Assumed uniform particle size and consistency
Sand Blowout Filter	55 gallon drum	1	Assumed uniform particle size and consistency	Assumed uniform particle size and consistency
Sand Cement	Cement Line Moat	1	Assumed uniform particle size and consistency	Assumed uniform particle size and consistency
Scrubber Sludge	Scrubber Wastewater Filter Press	1	Assumed uniform particle size and consistency	Assumed uniform particle size and consistency

NOTES;
(1) Recycle Bunker is an area within the facility established by Atlantic States where high temperature wastestreams are allowed to cool to allow sampling.

TABLE 3
ATLANTIC STATES CAST IRON PIPE
PHILLIPSBURG, NEW JERSEY
SAMPLING COLLECTION DETAILS

WASTESTREAM	SAMPLING PROCEDURE	# of Samples per Composite	# of Composites/ Day	SAMPLING DEVICE	BASIS FOR SAMPLING FREQUENCY
Aggregrate Composite	Collect grid samples; prepare grid and area composites	5	8 - 10	Scoop and core sampler for unconsolidated solids; scoop for consolidated solids	Assumes total Waste Storage Area volume < 1000 cy; Grid Sampling per NJDEP Appendix 1
Asphalt Coated Debris	Collect tear samples from three (3) spent pads and samples from (3) used air filters	3	1	Manual grab	
Asphalt Liquid Coating Cleanup	Collect (2) liquid samples	2	1	Core Sampler	
Bottom Sand	Collect chip samples from the Bottom Sand in Waste Staging Area	4	1	Scoop, Hammer, and Stainless steel bowl or plastic sheeting	
Core Butts	Collect chip samples from the two (2) strata	4 - Large strata	1	Scoop, Hammer, and Stainless steel bowl or plastic sheeting	
Core Department Baghouse Dust	Collect vertical samples from three (3) distinct layers in each Hopper	3	1	Core Sampler	
Cupola Slag	Collect chip samples from the two (2) strata	4 - Large strata	1	Scoop, Hammer, and Stainless steel bowl or plastic sheeting	
Dropout Box Particulate	Collect core samples	4	1	Shovel or scoop	
Finishing Baghouse Dust	Collect vertical samples from three (3) distinct layers in each Hopper	3	1	Core Sampler	
Lime Silo Bin Vent Filter Dust	Collect vertical samples from three (3) distinct layers in each Hopper	3	1	Core Sampler	
Lime Slag	Collect chip samples from the two (2) strata	4 - Large strata	1	Scoop, Hammer, and Stainless steel bowl or plastic sheeting	High volume wastestream; therefore increase # of composites
Melt Center Baghouse Dust	Collect vertical samples from three (3) distinct layers in each Hopper	9	1	Core Sampler	Based on 3 samples/hopper and 3 hoppers
Pig Bed Residual Sand	Collect systematic core samples from the Pig Bed waste pit after Metals screening	4	1	Shovel or scoop	
Sand Blowout Filter	Collect core samples	4	1	Shovel or scoop	
Sand Cement	Collect systematic core samples from the Former Moat	5	1	Scoop, shovel or Core Sampler	
Scrubber Sludge	Collect systematic samples from Sludge Storage Area	5	1	Core Sampler	High volume wastestream; therefore increase # of composites

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BY- PRODUCT AND WASTE CHARACTERIZATION

ASCIP Procedure Number **EMP-EM-0704EPM-028**	Date 08-26-04	Date Revised 10-25-04
Approved by:_____	Title:	Environmental Manager
Approved by:_____	Title:	General Manager

1.0 PURPOSE

This procedure describes the process used to properly characterize solid waste, especially hazardous waste. Characterizing waste ensures that ASCIP properly disposes of residuals from manufacturing and minimizes our environmental risk at disposal sites over the long term. This procedure is used in conjunction with ASCIP procedure EMP-EM-0904EPM-043, "Solid Material Environmental Sampling and Analysis Procedure" to properly determine the characterization of solid wastes and/or hazardous wastes.

2.0 DEFINITIONS

Solid Waste: A solid waste is a discarded material, which is further defined as any material that is abandoned, recycled or considered inherently waste-like (see 40 CFR § 261.2(d) for further explanation). Specifically excluded from the definition of solid waste are secondary materials that are reclaimed or returned to the original process through a closed loop system (see 40 CFR § 261.4(8) for further explanation).

Hazardous Waste: Solid wastes are considered hazardous if they exhibit one of the following characteristics of hazardous waste described in Subpart C of 40 CFR § 261or if they are specifically listed in Subpart D of 40 CFR § 261 as a hazardous waste. There are four characteristics of hazardous waste:

- Ignitability D001: a liquid with a flash point of less than 140°F, an ignitable compressed gas or an oxidizer as defined in 40 CFR § 173.151. (40 CFR § 261.21)
- Corrosivity D002: it is aqueous with a pH less than or equal to 2 or greater than or equal to 12.5. (40 CFR § 261.22)
- Reactivity D003: it is normally unstable and readily undergoes violent changes without detonation, or reacts violently with water, or forms potentially explosive mixtures with water, or when mixed with water, generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment, or is a cyanide- or sulfur-bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes, or is capable of detonation if subjected to an initiating source or heated, or is capable of detonation at standard temperature and pressure. (40 CFR § 261.23)
- Toxicity: it fails the Toxicity Characteristic Leaching procedure (TCLP). A waste fails the TCLP test if one or more of the parameters listed in the table in Section 3.0 are detected in the TCLP leachate at or above the corresponding hazardous waste limits. (40 CFR § 261.24)

Listed wastes are generated by specific industrial processes or are off-specification or discarded commercial chemical products. There are five categories of hazardous wastes:

- D-wastes: hazardous wastes having the characteristic of toxicity. (40 CFR § 261.24)
- F-wastes: wastes, which originate from non-specific sources; includes primarily solvents, heavy metal and cyanide wastes, dioxin wastes, and petroleum refining sludges. (40 CFR § 261.31)
- K-wastes: wastes which originate from specific processes and are identified according to the industry that generates them. (40 CFR § 261.32)

- P-wastes: discarded commercial chemical products, off-specification chemicals, container residues, and spill residues; most are acutely toxic wastes; these wastes are subject to more restrictive generator requirements. (40 CFR § 261.33(c))
- U-wastes: discarded commercial chemical products, off-specification chemicals, container residues, and spill residues; most exhibit the characteristic of toxicity. (40 CFR § 261.33(f)).

Wastes excluded from regulations as hazardous include household waste; crop or animal waste; mining overburden; wastes from the extraction, processing, and liquidification of ores and minerals; fly ash, bottom ash, slag, flue gas emission control waste generated primarily from combustion of fossil fuels; and drilling fluids and associated wastes from the production of oil and gas. (40 CFR § 261.4(b))

3.0 PROCEDURE – HAZARDOUS WASTE CHARACTERIZATION

Prior to disposal of any waste streams a determination of the contents must be made. Such a determination or characterization should be made using all three of the following criteria:

- Knowledge of the process and/or materials used to generate the waste;
- Review of the Material Safety Data Sheet (MSDS) for hazardous constituents (remember that constituents listed on MSDS are typically only those greater than 1%, and this is sometimes insufficient to determine hazardous waste characterization for level on the parts per million (ppm) level);
- Analytical sampling of the waste stream using USEPA approved methods including the Toxic Characteristic Leachate Procedure (TCLP). The table below presents maximum concentrations of contaminants for the Toxicity Characteristic.

USEPA Hazardous Waste Number	Parameter	CAS Number	Regulatory Limit (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon Tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	200.0
D204	m-Cresol	108-39-4	200.0
D025	p-Cresol	106-44-5	200.0
D026	Cresol		200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-45-3	10.0
D035	Methyl Ethyl Ketone	78-93-3	200.0

USEPA Hazardous Waste Number	Parameter	CAS Number	Regulatory Limit (mg/L)
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	128-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl Chloride	75-01-4	0.2

Once wastes have been characterized, the results must be documented and kept on file until three years after the last disposal of such a waste or until the waste stream changes due to changes in process or raw materials or other changes that warrant a new characterization.

Routinely generated wastes that may be hazardous include:

- Parts cleaning solvents (check ignitability and TCLP metals)
- Other spent/used solvents (check ignitability and TCLP metals)
- Paint waste (oil-based) (check ignitability and TCLP metals)
- Fluorescent Bulbs (check TCLP for mercury and lead)

Non-routine or contractor wastes should be characterized using the steps above every time the wastes are generated. Because of the variability in these waste streams characterization should be as specific as possible, often demonstrating that wastes may be non-hazardous and more cost-effectively disposed of.

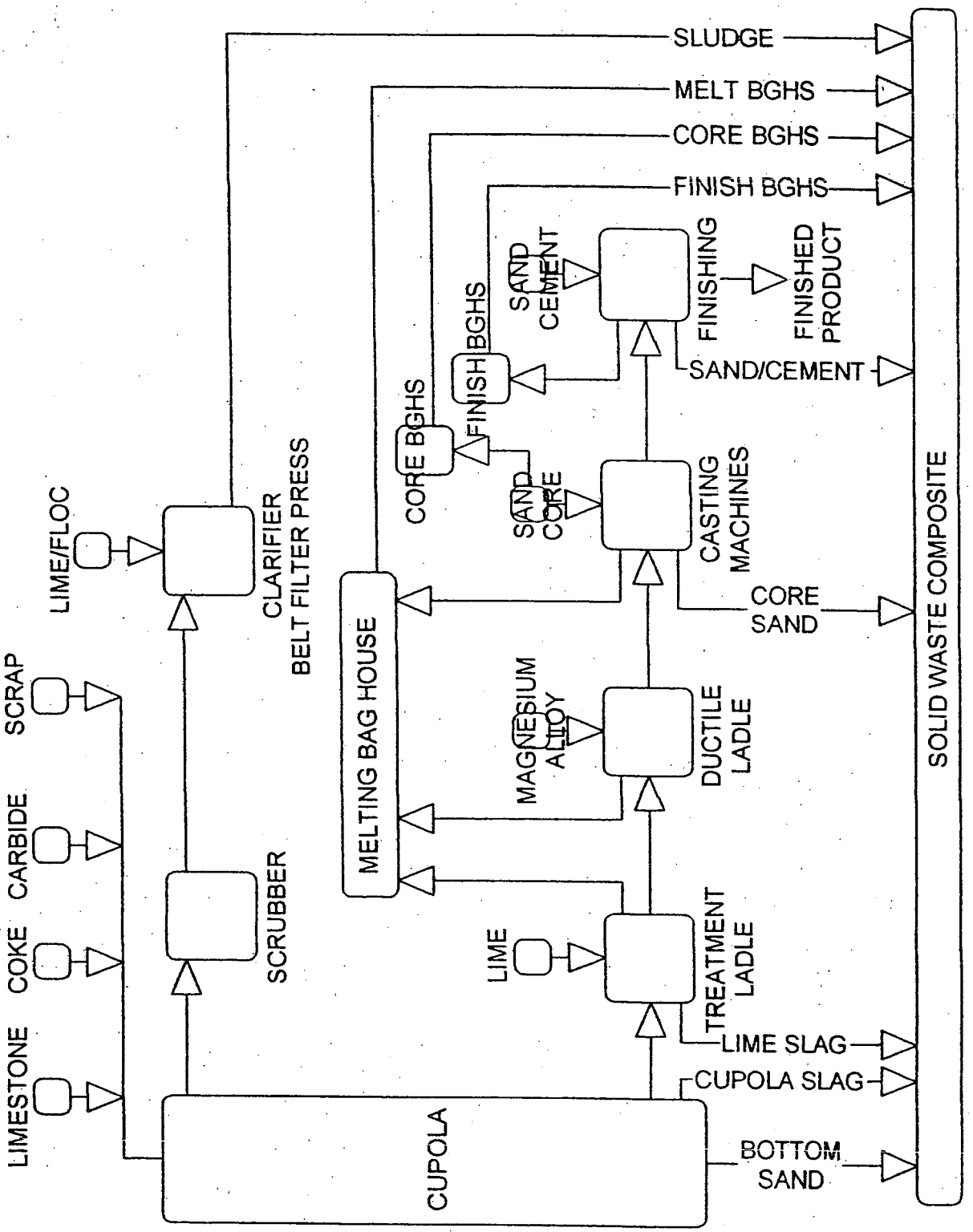
4.0 ROLES AND RESPONSIBILITIES

Operations Management and Personnel are responsible for ensuring all wastes are properly managed on site in respective operations areas. When new wastes are generated on site, operations management must coordinate with the Environmental Manager to conduct waste characterization.

The **Environmental Manager (EM)** is responsible for ensuring all wastes are properly disposed. Part of the process for proper disposal is conducting and documenting waste sampling, analyses, and characterizations. The EM will maintain records for waste characterizations.

The **Plant Manager** is responsible for ensuring that operations and maintenance resources are aware of these requirements and that sufficient resources are provided to implement this procedure.

Appendix B
Material Profiles



ATLANTIC STATES CAST IRON PIPE COMPANY

183 SITGREAVES STREET

PHILLIPSBURG, NEW JERSEY 08865

SOLID WASTE FLOW DIAGRAM

TABLE 1
ATLANTIC STATES CAST IRON PIPE
PHILLIPSBURG, NEW JERSEY
WASTESTREAM SUMMARY

WASTESTREAM	POINT OF GENERATION	ACCUMULATION AREA	STORAGE AREA	RECYCLED OR DISPOSED?	GENERATION FREQUENCY	PHYSICAL CHARACTERISTICS	
						DESCRIPTION	PROPERTIES
Aggregrate Composite	Throughout Plant	At points-of-generation	Recycle Bunker	Recycled	Daily	Combination of all recycle streams except cupola slag	Mixed Solids
Asphalt Coated Debris	Spray Plant Booths	Refuse Dumpster	Refuse Dumpster	Disposed	Daily	Absorbents - Other Solids, Unconsolidated	Solid
Asphalt Liquid Coating Cleanup	Spray Paint Booths	55 gal Drum	Recycle Bunker	Disposed	Daily	Liquid Waste Asphalt Coating	Liquid
Bottom Sand	Cupola	Melting Back Yard	Recycle Bunker	Recycled	Once/ 6-8 weeks	Consolidated Solid	Granular
Core Butts	Casting Area	Casting Area	Recycle Bunker	Recycled	Daily	Consolidated Solid	Solid
Core Department Baghouse Dust	Core Department Baghouse	Core Department Baghouse Hopper	Recycle Bunker	Recycled	Once/quarter	Granular Solids, Unconsolidated	Fine Dry Dust
Cupola Slag	Cupola	Slag Pit	Recycle Bunker	Recycled	Daily	Molten Slag - cools to Consolidated Solid	Dry Solid
Dropout Box Particulate	Scrubber Drop Out Box	Melting Back Yard	Recycle Bunker	Disposed	Daily - Small Volume	Granular Solids, Unconsolidated	Fine Dry Dust
Finishing Baghouse Dust	Finishing Baghouse	Finishing Baghouse Hopper	Recycle Bunker	Recycled and Disposed	Once/quarter	Granular Solids, Unconsolidated	Fine Dry Dust
Lime Silo Bin Vent Filter Dust	Lime Silo Bin Vent	Lime Silo Bin Vent	Recycle Bunker	Recycled	Once/week	Granular Solids, Unconsolidated	Wet Solid
Lime Slag	Treatment Ladle	Slag Pit	Recycle Bunker	Recycled	Daily	Granular Material	Dry Solid
Melt Center Baghouse Dust	Melt Center Baghouse	Melt Center Baghouse Hopper	Recycle Bunker	Recycled	Daily	Granular Solids, Unconsolidated	Fine Dry Dust
Pig Bed Residual Sand	Screen Shaker	Screen Shaker Pit	Recycle Bunker	Recycled	Daily	Solid	Non-Aqueous Solid
Sand Blowout Filter	Cyclones and Filters	Oven Area	Recycle Bunker	Disposed	Daily - Small Volume	Granular Solids, Unconsolidated	Fine Dry Dust
Sand Cement	Cement Line Moat	Former Moat	Recycle Bunker	Recycled	Once/week	Other Solids, Unconsolidated	Moist Solid
Scrubber Sludge	Scrubber Wastewater Filter Press	Dump Truck	Sludge Storage Area	Recycled	Continuous	Sludge - Other Solids, Unconsolidated	Sludge

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
Aggregate Composite

2) MATERIAL DESCRIPTION
Aggregate Composite is best described as a combination of all recycle streams except cupola slag. The composite is assumed to have the properties of a non-aqueous solid and waste characteristic of the individual material components.

3) PROCESS GENERATING MATERIAL
The point of generation of the material is the throughout pit, which generates daily.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES [NO]
If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

Is the waste excluded under 40 CFR 261.4? No

Is the waste listed under 40 CFR 261, Subpart D? No

Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C? No (based on individual waste stream characterizations)

Is this a Hazardous Waste? (Include waste code) No

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
N/A

7) ON-SITE HANDLING AND MANAGEMENT
Aggregate Composite accumulates at points-of-generation and is stored in the waste storage area.

8) FINAL DISPOSTION
Aggregate Composite is recycled as a road base through several offsite processors.

Use back of Form if additional room is needed.

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
Asphalt Coated Debris

2) MATERIAL DESCRIPTION
Asphalt Coated Debris is best described as a spent absorbent or other another unconsolidated solids along with used air filters and coating department cleanup solids.

3) PROCESS GENERATING MATERIAL
The point of generation of the material is spray paint booths that generate daily.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES NO
If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

Is the waste excluded under 40 CFR 261.4? No

Is the waste listed under 40 CFR 261, Subpart D? No

Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C? No

Is this a Hazardous Waste? (Include waste code) No

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
N/A

7) ON-SITE HANDLING AND MANAGEMENT
Asphalt Coated Debris is accumulated in garbage bags and placed in refuse dumpsters for shipment off site.

8) FINAL DISPOSTION
Asphalt Coated Debris is disposed.

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
Asphalt Liquid Coating Cleanup

2) MATERIAL DESCRIPTION
Asphalt Liquid Coating Cleanup is best described as used or contaminated liquid debris from the coating operations in the spray booths filters or other unconsolidated solids. The material has the properties of a non-aqueous solid.

3) PROCESS GENERATING MATERIAL
The point of generation of the material is spray paint booths that generate daily.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES [NO]
If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

Is the waste excluded under 40 CFR 261.4? No

Is the waste listed under 40 CFR 261, Subpart D? No

Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C? No

Is this a Hazardous Waste? (Include waste code) No

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
N/A

7) ON-SITE HANDLING AND MANAGEMENT
Asphalt Liquid Coating Cleanup is shoveled into totes or drums and transported to the recycle bunker and mixed with other recycle solids of the aggregate stream to be absorbed to remove free liquids for off site shipment.

8) FINAL DISPOSTION
Asphalt Liquid Coating Cleanup is recycled.

Asphalt coating
Liquid waste

Accutest Laboratories

Report of Analysis

Client Sample ID:	PW-002A,B COMPOSITE		
Lab Sample ID:	N69731-2	Date Sampled:	06/14/04
Matrix:	SO - Sludge	Date Received:	06/14/04
Method:	SW846 8260B	Percent Solids:	53.4
Project:	ASCIP/Herold and Haines		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V34290.D	1	06/18/04	DFT	n/a	n/a	VV1285
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.9 g	10.0 ml	10.0 ul
Run #2			

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1900	450	ug/kg	
108-88-3	Toluene	1890	1900	440	ug/kg	J
100-41-4	Ethylbenzene	ND	1900	1100	ug/kg	
1330-20-7	Xylene (total)	4920	3800	810	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1900	630	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		67-119%
17060-07-0	1,2-Dichloroethane-D4	80%		58-128%
2037-26-5	Toluene-D8	91%		75-121%
460-00-4	4-Bromofluorobenzene	92%		67-132%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Asphalt coating
Liquid clean up waste

Accutest Laboratories

Report of Analysis

Client Sample ID:	PW-001		
Lab Sample ID:	N69731-1	Date Sampled:	06/14/04
Matrix:	LIQ - Liquid, Non-aqueous	Date Received:	06/14/04
Project:	ASCIP/Herold and Haines	Percent Solids:	n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Petroleum Hydrocarbons	432	140	mg/l	250	06/17/04	JDL	EPA 418.1

RL = Reporting Limit

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
Bottom Sand

2) MATERIAL DESCRIPTION
Bottom Sand is best described as a consolidated solid and has the properties of a non-aqueous solid.

3) PROCESS GENERATING MATERIAL
The point of generation of the material is the cupola that generates once every six to eight weeks.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES [NO]
If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

Is the waste excluded under 40 CFR 261.4? No

Is the waste listed under 40 CFR 261, Subpart D? No

Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C?

Is this a Hazardous Waste? (Include waste code)

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
N/A

7) ON-SITE HANDLING AND MANAGEMENT
When the Cupola is cleaned out, Bottom Sand accumulates next to the slag pit and is transferred by front end loader to the recycle bunker.

8) FINAL DISPOSTION
Bottom Sand is recycled as a road base through several off site processors.

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
Core Butts

2) MATERIAL DESCRIPTION
Core butts are best described as a consolidated solid of various sizes.

3) PROCESS GENERATING MATERIAL
The point of generation of the material is the casting area. For each pipe, a sacrificial core is discarded from the pipe that exits the casting machines. They are generated daily.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES [NO]
If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

Is the waste excluded under 40 CFR 261.4? No

Is the waste listed under 40 CFR 261, Subpart D? No

Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C? No

Is this a Hazardous Waste? (Include waste code) No

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
N/A

7) ON-SITE HANDLING AND MANAGEMENT
Core butts accumulate in the casting area and are transported in totes to the recycle bunker.

8) FINAL DISPOSTION
Core butts are recycled as a road base through several offsite processors.

Use back of Form if additional room is needed.

Core Butts

GT #: PH-0671
MA #: NJ386 NY #: 11408
NJ #: 14022 PA #: 68-465

Report Of Analysis
veritech laboratories

To: DMA

8 Scottsdale Court

Cranbury NJ 08512

Attention: Bill Mikula
Project: Atlantic States

Date Collected: 11/17/03
Date Submitted: 11/19/03
Date Reported: 12/4/03

Lab#	Sample ID	TestGroup/Analyte	Units	MDL PQL RL	Result
AB98549	**CB-C-L-1AthruD comp**				
		Mercury (Soil/Waste) 7471A			
		Mercury	mg/kg	0.094	ND
		Mercury (TCLP) 7470A			
		Mercury (TCLP)	mg/l	0.00070	ND
		pH 9045C			
		pH	ph		7.8
		PP Metals (Soil) 6010			
		Antimony	mg/kg	2.0	ND
		Arsenic	mg/kg	2.0	ND
		Barium	mg/kg	10	20
		Beryllium	mg/kg	0.50	ND
		Cadmium	mg/kg	0.50	ND
		Chromium	mg/kg	3.0	ND
		Copper	mg/kg	5.0	ND
		Lead	mg/kg	5.0	ND
		Nickel	mg/kg	5.0	ND
		Selenium	mg/kg	1.8	ND
		Silver	mg/kg	2.5	ND
		Thallium	mg/kg	1.2	ND
		Zinc	mg/kg	10	ND
		TCLP Metals 6010			
		Arsenic (TCLP)	mg/l	0.20	ND
		Barium (TCLP)	mg/l	0.20	1.5
		Cadmium (TCLP)	mg/l	0.050	ND
		Chromium (TCLP)	mg/l	0.20	ND
		Lead (TCLP)	mg/l	0.15	ND
		Nickel (TCLP)	mg/l	0.20	ND
		Selenium (TCLP)	mg/l	0.20	ND
		Silver (TCLP)	mg/l	0.10	ND
		TCLP Metals Extraction 1311			
		TCLP Metals Extraction	n/a		Complete
AB98550	**CB-C-S-2AthruD comp**				
		Mercury (Soil/Waste) 7471A			
		Mercury	mg/kg	0.094	ND
		Mercury (TCLP) 7470A			
		Mercury (TCLP)	mg/l	0.00070	ND
		pH 9045C			
		pH	ph		12
		PP Metals (Soil) 6010			
		Antimony	mg/kg	2.0	ND
		Arsenic	mg/kg	2.0	5.7
		Barium	mg/kg	10	1000
		Beryllium	mg/kg	0.50	ND
		Cadmium	mg/kg	0.50	ND
		Chromium	mg/kg	3.0	13
		Copper	mg/kg	5.0	39
		Lead	mg/kg	5.0	ND
		Nickel	mg/kg	5.0	8.0
		Selenium	mg/kg	1.8	ND
		Silver	mg/kg	2.5	ND
		Thallium	mg/kg	1.2	ND
		Zinc	mg/kg	10	19
		TCLP Metals 6010			
		Arsenic (TCLP)	mg/l	0.20	ND
		Barium (TCLP)	mg/l	1.0	61
		Cadmium (TCLP)	mg/l	0.050	ND
		Chromium (TCLP)	mg/l	0.20	ND
		Lead (TCLP)	mg/l	0.15	ND
		Nickel (TCLP)	mg/l	0.20	ND
		Selenium (TCLP)	mg/l	0.20	ND
		Silver (TCLP)	mg/l	0.10	ND
		TCLP Metals Extraction 1311			
		TCLP Metals Extraction	n/a		Complete

ND = Not Detected

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
Core Department Baghouse Dust

2) MATERIAL DESCRIPTION
Core Department Baghouse Dust is best described as a unconsolidated granular dry dust.

3) PROCESS GENERATING MATERIAL
The point of generation of the material is the core department baghouse hopper that generates once a quarter.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES [NO]
If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

Is the waste excluded under 40 CFR 261.4? No

Is the waste listed under 40 CFR 261, Subpart D? No

Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C? No

Is this a Hazardous Waste? (Include waste code) No

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
N/A

7) ON-SITE HANDLING AND MANAGEMENT
Core Department Baghouse Dust accumulates in the core center baghouse hopper and collected in a drum that is transported to the recycle bunker and mixed with the aggregate composite.

8) FINAL DISPOSTION
Core Department Baghouse Dust is recycled as a road base through several off site processors.

Use back of Form if additional room is needed.

Core Floor Baghouse

Report of Analysis

Client Sample ID:	CF 10/08 1		
Lab Sample ID:	N80346-2	Date Sampled:	10/08/04
Matrix:	SO - Soil	Date Received:	10/11/04
		Percent Solids:	n/a
Project:	Atlantic States Cast Iron Pipe, Phillipsburg, NJ		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	<0.50	D004	5.0	0.50	mg/l	1	10/14/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Barium	4.9	D005	100	1.0	mg/l	1	10/14/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Cadmium	<0.0050	D006	1.0	0.0050	mg/l	1	10/14/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Chromium	0.059	D007	5.0	0.010	mg/l	1	10/14/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Lead	<0.50	D008	5.0	0.50	mg/l	3	10/14/04	10/18/04	ND	SW846 6010B [3]	SW846 3010A [4]
Mercury [a]	<0.00040	D009	0.20	0.00040	mg/l	1	10/16/04	10/16/04	WG	SW846 7470A [1]	SW846 7470A [5]
Selenium	<0.50	D010	1.0	0.50	mg/l	1	10/14/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Silver	<0.010	D011	5.0	0.010	mg/l	1	10/14/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA14614
(2) Instrument QC Batch: MA14622
(3) Instrument QC Batch: MA14623
(4) Prep QC Batch: MP27557
(5) Prep QC Batch: MP27578

(a) Elevated sample detection limit due to difficult sample matrix.

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
Cupola Slag.

2) MATERIAL DESCRIPTION
Cupola Slag is best described as Molten Slag, which cools to a Consolidated Solid.

3) PROCESS GENERATING MATERIAL
The point of generation of the material is the impurities and fluxes skimmed off the molten metal as it exits the cupola. It is generated daily.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES [NO]
If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

Is the waste excluded under 40 CFR 261.4? No

Is the waste listed under 40 CFR 261, Subpart D? No

Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C? No

Is this a Hazardous Waste? (Include waste code) No

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
N/A

7) ON-SITE HANDLING AND MANAGEMENT
Cupola slag accumulates in a slag pit and is transported by front end loader to be stored in the recycle bunker where it is mixed with aggregate composite.

8) FINAL DISPOSTION
Cupola slag is recycled as a road base through several off site processors.

Use back of Form if additional room is needed.

Accutest LabLink@219747 11:26 28-Oct-2004 Preliminary Data

Cupola Slag

Report of Analysis

Client Sample ID:	CS 10/05 1A		
Lab Sample ID:	N79846-1	Date Sampled:	10/05/04
Matrix:	SO - Solid	Date Received:	10/06/04
		Percent Solids:	100.0
Project:	Atlantic States Cast Iron Pipe, Phillipsburg, NJ		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	<0.20			0.20	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Arsenic	<0.50	D004	5.0	0.50	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Barium	<1.0	D005	100	1.0	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Cadmium	<0.0050	D006	1.0	0.0050	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Chromium	0.17	D007	5.0	0.010	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Copper	<0.025			0.025	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Lead	<0.50	D008	5.0	0.50	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Manganese	13.9			0.015	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Mercury	<0.00020	D009	0.20	0.00020	mg/l	1	10/16/04	10/20/04	WG	SW846 7470A [1]	SW846 7470A [4]
Nickel	<0.040			0.040	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Selenium	<0.50	D010	1.0	0.50	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Silver	<0.010	D011	5.0	0.010	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Thallium	<0.20			0.20	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Zinc	0.15			0.020	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA14620
(2) Instrument QC Batch: MA14621
(3) Prep QC Batch: MP27542
(4) Prep QC Batch: MP27590

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)

Report of Analysis

Client Sample ID:	CS 10/05 1A		
Lab Sample ID:	N79846-1A	Date Sampled:	10/05/04
Matrix:	SO - Solid	Date Received:	10/06/04
		Percent Solids:	100.0
Project:	Atlantic States Cast Iron Pipe, Phillipsburg, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Barium	1340	20	mg/kg	1	10/26/04	10/28/04	LH	SW846 6010B [1]	SW846 3050B [2]
Cadmium	< 0.51	0.51	mg/kg	1	10/26/04	10/28/04	LH	SW846 6010B [1]	SW846 3050B [2]
Nickel	< 4.0	4.0	mg/kg	1	10/26/04	10/28/04	LH	SW846 6010B [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA14685
(2) Prep QC Batch: MP27732

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CS 10/05 1B		
Lab Sample ID:	N79846-2	Date Sampled:	10/05/04
Matrix:	SO - Solid	Date Received:	10/06/04
		Percent Solids:	100.0
Project:	Atlantic States Cast Iron Pipe, Phillipsburg, NJ		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	<0.20			0.20	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Arsenic	<0.50	D004	5.0	0.50	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Barium	<1.0	D005	100	1.0	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Cadmium	<0.0050	D006	1.0	0.0050	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Chromium	0.15	D007	5.0	0.010	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Copper	<0.025			0.025	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Lead	<0.50	D008	5.0	0.50	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Manganese	13.4			0.015	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Mercury	<0.00020	D009	0.20	0.00020	mg/l	1	10/16/04	10/20/04	WG	SW846 7470A [1]	SW846 7470A [4]
Nickel	<0.040			0.040	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Selenium	<0.50	D010	1.0	0.50	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Silver	<0.010	D011	5.0	0.010	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Thallium	<0.20			0.20	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]
Zinc	0.39			0.020	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA14620
(2) Instrument QC Batch: MA14621
(3) Prep QC Batch: MP27542
(4) Prep QC Batch: MP27590

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)

Report of Analysis

Client Sample ID:	CS 10/05 1B		
Lab Sample ID:	N79846-2A	Date Sampled:	10/05/04
Matrix:	SO - Solid	Date Received:	10/06/04
		Percent Solids:	100.0
Project:	Atlantic States Cast Iron Pipe, Phillipsburg, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Barium	1220	20	mg/kg	1	10/26/04	10/28/04	LH	SW846 6010B [1]	SW846 3050B [2]
Nickel	<4.1	4.1	mg/kg	1	10/26/04	10/28/04	LH	SW846 6010B [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA14685
(2) Prep QC Batch: MP27732

RL = Reporting Limit

MATERIAL PROFILE FORM

DATE 11/10/04

1) MATERIAL IDENTIFICATION
   Dropout Box Particulate

2) MATERIAL DESCRIPTION
   Dropout Box Particulate is best described as a unconsolidated granular solid.

3) PROCESS GENERATING MATERIAL
   The point of generation of the material is the scrubber dropout box that generates a small volume daily.

4) IS THE MATERAIL BEING DISCARDED AS A WASTE? YES [NO]
   If yes continue to #5. If no continue to # 7.

5) HAZARDOUS WASTE DETERMINATION

   Is the waste excluded under 40 CFR 261.4? No

   Is the waste listed under 40 CFR 261, Subpart D? No

   Does the waste exhibit a hazardous characteristic under 40 CFR 261 Subpart C? No

   Is this a Hazardous Waste? (Include waste code) No

6) NON-HAZARDOUS WASTE CHARACTERIZATION (Include applicable waste codes)
   N/A

7) ON-SITE HANDLING AND MANAGEMENT
   Dropout Box Particulate accumulates in the melting back yard enclosure and is transported by front end loader and stored in the recycle bunker and mixed with the aggregate composite.

8) FINAL DISPOSTION
   Dropout Box Particulate is recycled as a road base through several off site processors.

Use back of Form if additional room is needed.

Report of Analysis

Drop out Box particulate

Client Sample ID:	DO 10/05 1A		
Lab Sample ID:	N79846-10	Date Sampled:	10/05/04
Matrix:	SO - Solid	Date Received:	10/06/04
		Percent Solids:	n/a
Project:	Atlantic States Cast Iron Pipe, Phillipsburg, NJ		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	<0.50	D004	5.0	0.50	mg/l	1	10/13/04	10/19/04	LH	SW846 6010B [3]	SW846 3010A [4]
Barium	<1.0	D005	100	1.0	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Cadmium	0.013	D006	1.0	0.0050	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Chromium	0.21	D007	5.0	0.010	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Lead	<0.50	D008	5.0	0.50	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]
Mercury	<0.00020	D009	0.20	0.00020	mg/l	1	10/16/04	10/20/04	WG	SW846 7470A [1]	SW846 7470A [5]
Selenium	<0.50	D010	1.0	0.50	mg/l	1	10/13/04	10/19/04	LH	SW846 6010B [3]	SW846 3010A [4]
Silver	<0.010	D011	5.0	0.010	mg/l	1	10/13/04	10/17/04	ND	SW846 6010B [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA14620
(2) Instrument QC Batch: MA14622
(3) Instrument QC Batch: MA14626
(4) Prep QC Batch: MP27526
(5) Prep QC Batch: MP27589

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)